

Management of Single Tooth Recession by Free Gingival Graft - A Case Report

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Abstract: *Gingival recession is the exposure of root surfaces due to apical migration of the gingival margins beyond the cemento-enamel junction. Insufficient gingival thickness and inadequate width of attached gingiva are the most common reasons for progressive gingival recession. It can lead to sensitivity in the area of recession and complicates the maintenance of oral hygiene. Various periodontal plastic surgical procedures can be performed to treat this condition. This case report presents a case report of a 43-year-old female with class 3 gingival recession (Miller's Classification) successfully treated with free gingival graft.*

Keywords: Free gingival graft, Gingival recession, root coverage, mucogingival surgery, free gingival autograft.

1. Introduction

Gingival recession is the apical shift of the gingival margin resulting in exposure of the root surface.¹ It is more common in mandibular teeth than maxillary and its prevalence is found to increase with age.² The interaction of infection with host immune response in diseased state of periodontium leads to degradation of matrix, alveolar bone resorption and apical migration of the epithelium which results in formation of periodontal pockets, gingival recession or their combination.¹ There are numerous techniques that can be applied for its management, namely, free gingival graft (FGG), sub-epithelial connective tissue graft, laterally-positioned graft, double-papilla flap, pouch and tunnel technique and guided tissue regeneration.³ The present case report describes the management of recession in mandibular anterior region by free gingival graft.

2. Case Report

A 43-year-old female patient presented in the Department of Periodontology, PGIDS Rohtak with the complaint of receding gums with respect to lower anterior teeth. The recession was progressive and was the cause of sensitivity in that area. Medical history did not reveal any contributory findings. On clinical examination, the oral hygiene status of patient was found to be satisfactory. No periodontal pockets were revealed upon periodontal examination. Class 3 gingival recession according to Miller's classification⁴ was noticed with respect to mandibular right central incisor. (Fig 1) Vestibular depth of the patient was shallow and roughly 1 mm of remaining width of keratinized tissue was noted at the site of recession.

Treatment

Initially, thorough full mouth scaling was performed and oral hygiene instructions were given to the patient. After 2 weeks, complete resolution of inflammation at recession site

was observed. Thereafter, treatment of recession by single-stage free gingival autograft was planned. At the next visit after 1-week, written consent was taken from the patient and the surgical procedure was carried out. After local anaesthesia by locally infiltrating with 2% Lignocaine HCl + 1: 2, 00, 0000 epinephrine and, the exposed root surfaces were planed thoroughly with a Gracey 1-2 curette.⁵ The horizontal incision was made at the level of cemento-enamel junction extending from the line angle of adjacent teeth on either side of the recession deep into the papilla, creating a butt joint. At the ends of the horizontal incision, vertical incisions were given extending well into the alveolar mucosa. A partial thickness flap was elevated and excised apically.⁶ Deepening of the vestibule was done simultaneously. (Fig 2) The dimension of donor tissue required was assessed by using a foil template.

The thickness of gingiva on right side of palate between first and second premolar was assessed for graft donation. The initial incision on the donor site was outlined by using the foil template with a number 15 scalpel blade. Final incision was then made by using the same number 15 blade by holding it parallel to the tissue, then continuing apically, lifting and separating the graft. Pressure pack was then applied on the donor site to arrest bleeding. After complete haemostasis, Hawley's retainer was delivered to the patient to ensure protection of the donor site.

The connective tissue side of the graft was inspected for the presence of any fatty or glandular tissues or tissue tags which were then removed using a scalpel blade. Graft of uniform thickness of about 1.5 mm thickness was thus obtained. (Fig 3)

The graft was then placed on the recipient bed and sutured by placing 5-0 vicryl sutures in interrupted manner at the mesial and distal ends. Grafted site was then slightly compressed with saline moistened gauze for 5 minutes to achieve haemostasis and formation of fibrin clot and to

ensure proper adaptation of the graft to the recipient bed. (Fig 4)

Post operative instructions were given to the patient. She was instructed to refrain from tooth brushing at the surgical site for 10 days. Chlorhexidine mouthwash 0.2% 10ml twice daily for 10 days along with Amoxicillin 500 mg thrice daily + Metronidazole 400mg thrice daily for 5 days and Ibuprofen 400 mg as and when required was prescribed. Suture removal was done at 14 days post operatively. Satisfactory healing of recipient site and donor site was observed at the time of suture removal. At long term follow up after one year, recipient site was in a completely healthy. The outcome was as desired and fully intact and accepted graft was seen. (Fig 5)

3. Discussion

First described by Bjorn in 1963, and Sullivan and Atkins in 1968,⁷ the free gingival graft was used initially to increase the amount of attached gingiva and extend the depth of vestibule. It was later that it was used to attempt coverage of exposed roots. It is a simple, versatile and highly predictable technique. Also, it can be used over an extraction socket or osseous graft.^{8, 9} Possibility of trauma during healing, open wound at donor site and unpredictable colour matching are the major disadvantages of FGG.

According to Sullivan and Atkins, free gingival graft offers best results in cases of shallow and narrow recession.¹⁰ As reported by them, when graft is placed over recession, some amount of bridging can be expected as part of grafted tissue covering the root will survive by receiving circulation from the vascular portion of the recipient site. Additionally, creeping attachment can result in a post operative coronal migration of gingival margin. Narrowness of the recession, presence of bone positioned interproximally at a coronal level on the facial surface, absence of gross tooth malpositioning and adequate plaque control favour creeping attachment.⁷ Later, Miller (1987) classified recession defects taking into consideration the anticipated root coverage that is possible to obtain.⁶ Miller's criteria for considering root coverage to be successful include soft tissue margin at the cemento - enamel junction, clinical attachment to the root, sulcus depth of 2 mm and no bleeding on probing.¹⁰ In this case, considerable coverage of the root was attained without any report of adverse event. Coverage achieved was maintained even after 1 year of surgery.



Figure 1: Pre operative picture



Figure 2: Prepared recipient bed



Figure 3: Harvested graft



Figure 4: Post operative - graft sutured at recipient site



Figure 5: One year follow up

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